ACUTE PERIODONTAL CONDITIONS

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OBJECTIVES

- Provide general information on the clinical features of acute periodontal conditions.
- Provide general information on the diagnosis and treatment of acute periodontal conditions.

OVERVIEW

- Abscesses of the Periodontium
- Necrotizing Periodontal Diseases
- Gingival Diseases of Viral Origin-Herpesvirus
- Recurrent Aphthous Stomatitis
- Allergic Reactions

Abscesses of the Periodontium

- Gingival Abscess
- Periodontal Abscess
- Pericoronal Abscess

Gingival Abscess

A localized purulent infection that involves the marginal gingiva or interdental papilla

Gingival Abscess

Gingival Abscess

- Etiology
  - Acute inflammatory response to foreign substances forced into the gingiva
- Clinical Features
  - Localized swelling of marginal gingiva or papilla
  - A red, smooth, shiny surface
  - May be painful and appear pointed
  - Purulent exudate may be present
  - No previous periodontal disease

Gingival Abscess

- Treatment
  - Elimination of foreign object
  - Drainage through sulcus with probe or light scaling
  - Follow-up after 24-48 hours

Periodontal Abscess

- A localized purulent infection within the tissues adjacent to the periodontal pocket that may lead to the destruction of periodontal ligament and alveolar bone

Periodontal Abscess

Periodontal Abscess

- *Usually pre-existing chronic periodontitis present!!!*
- Factors associated with abscess development
  - Occlusion of pocket orifice (by healing of marginal gingiva following supragingival scaling)
  - Furcation involvement
  - Systemic antibiotic therapy (allowing overgrowth of resistant bacteria)
  - Diabetes Mellitus

Periodontal Abscess

- Clinical Features
  - Smooth, shiny swelling of the gingiva
  - Painful, tender to palpation
  - Purulent exudate
  - Increased probing depth
  - Mobile and/or percussion sensitive
  - Tooth usually vital

Periodontal Vs. Periapical Abscess

- Periodontal Abscess
  - Vital tooth
  - No caries
  - Pocket
  - Lateral radiolucency
  - Mobility
  - Percussion sensitivity variable
  - Sinus tract opens via keratinized gingiva
- Periapical Abscess
  - Non-vital tooth
  - Caries
  - No pocket
  - Apical radiolucency
  - No or minimal mobility
  - Percussion sensitivity
  - Sinus tract opens via alveolar mucosa

Periodontal Abscess

- Treatment
  - Anesthesia
  - Establish drainage
    - Via sulcus is the preferred method
    - Surgical access for debridement
    - Incision and drainage
    - Extraction

Periodontal Abscess

- Other Treatment Considerations:
  - Limited occlusal adjustment
  - Antimicrobials
  - Culture and sensitivity

A periodontal evaluation following resolu
acute symptoms is essential!!!

Periodontal Abscess

- Antibiotics (if indicated due to fever, malaise, lymphadenopathy, or inability to obtain drainage)
  - Without penicillin allergy
    - Penicillin
  - With penicillin allergy
    - Azithromycin
    - Clindamycin
  - Alter therapy if indicated by culture/sensitivity

Pericoronal Abscess

- A localized purulent infection within the tissue surrounding the crown of a partially erupted tooth.
- Most common adjacent to mandibular third molars in young adults; usually caused by impaction of debris under the soft tissue flap

Pericoronal Abscess

Pericoronal Abscess

- Clinical Features
  - Operculum (soft tissue flap)
  - Localized red, swollen tissue
  - Area painful to touch
  - Tissue trauma from opposing tooth common
  - Purulent exudate, trismus, lymphadenopathy, fever, and malaise may be present

Pericoronal Abscess

- Treatment Options
  - Debride/irrigate under pericoronal flap
  - Tissue recontouring (removing tissue flap)
  - Extraction of involved and/or opposing tooth
  - Antimicrobials (local and/or systemic as needed)
  - Culture and sensitivity
  - Follow-up

Necrotizing Periodontal Diseases

- Necrotizing Ulcerative Gingivitis (NUG)
- Necrotizing Ulcerative Periodontitis (NUP)

Necrotizing Ulcerative Gingivitis

- An infection characterized by gingival necrosis presenting as “punched-out” papillae, with gingival bleeding and pain

Necrotizing Ulcerative Gingivitis

Necrotizing Ulcerative Gingivitis

- Historical terminology
  - Vincent's disease
  - Trench mouth
  - Acute necrotizing ulcerative gingivitis (ANUG)...*this terminology changed in 2000*

Necrotizing Ulcerative Gingivitis

- Necrosis limited to gingival tissues
- Estimated prevalence 0.6% in general population
- Young adults (mean age 23 years)
- More common in Caucasians
- Bacterial flora
  - Spirochetes (*Treponema* sp.)
  - *Prevotella intermedia*
  - Fusiform bacteria

Necrotizing Ulcerative Gingivitis

- Clinical Features
  - Gingival necrosis, especially tips of papillae
  - Gingival bleeding
  - Pain
  - Fetid breath
  - Pseudomembrane formation

Necrotizing Ulcerative Gingivitis

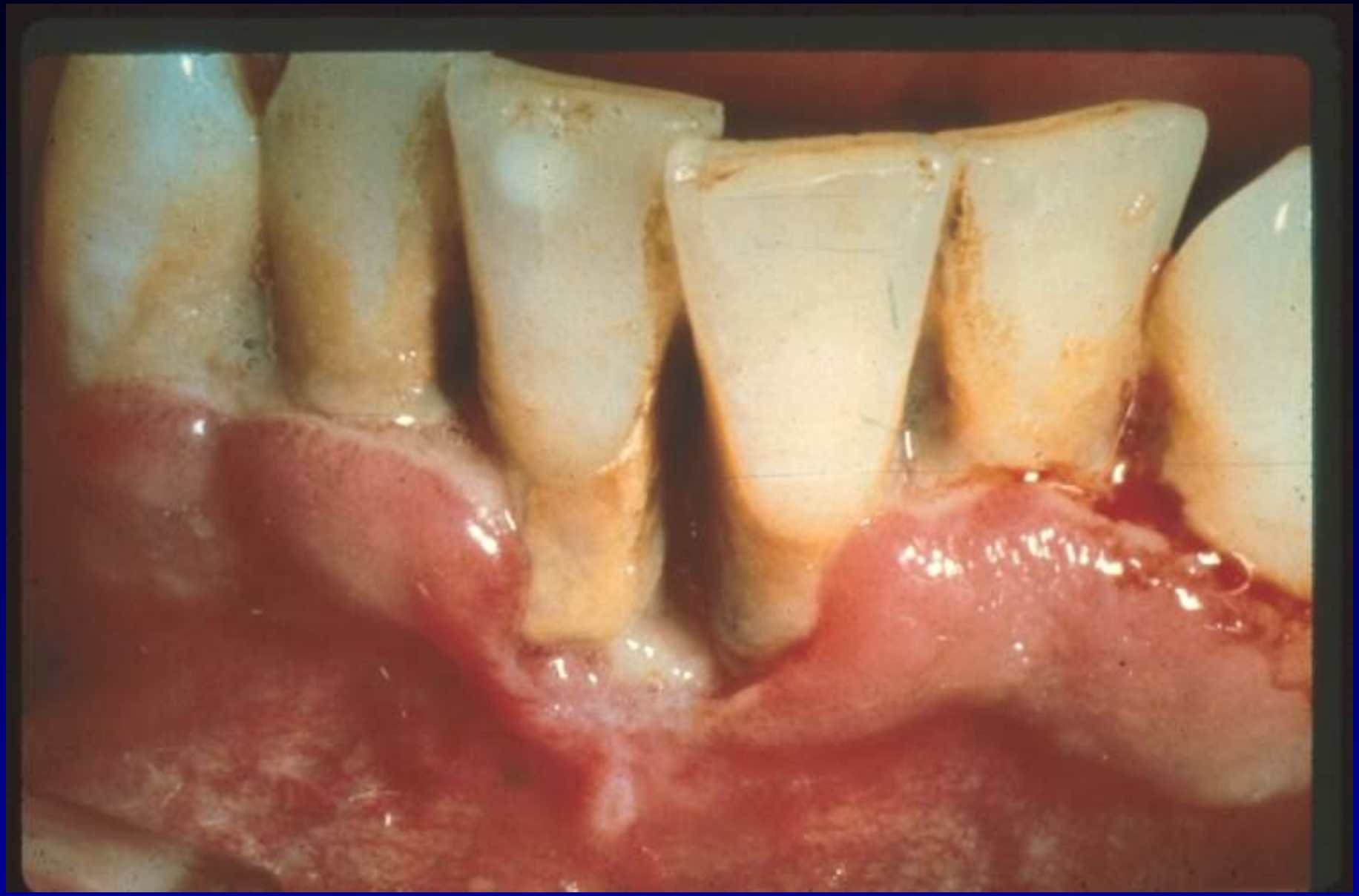
- Predisposing Factors
  - Emotional stress
  - Poor oral hygiene
  - Cigarette smoking
  - Poor nutrition
  - Immunosuppression

******Necrotizing Periodontal diseases are c immunocompromised patients, especially are HIV (+) or have AIDS***

Necrotizing Ulcerative Periodontitis

- An infection characterized by necrosis of gingival tissues, periodontal ligament, and alveolar bone

Necrotizing Ulcerative Periodontit



Necrotizing Ulcerative Periodontitis

- Clinical Features
  - Clinical appearance of NUG
  - Severe deep aching pain
  - Very rapid rate of bone destruction
  - Deep pocket formation not evident

Necrotizing Periodontal Diseases

- Treatment
  - Local debridement
  - Oral hygiene instructions
  - Oral rinses
  - Pain control
  - Antibiotics
  - Modify predisposing factors
  - Proper follow-up

Necrotizing Periodontal Diseases

- Treatment
  - Local debridement
    - Most cases adequately treated by debridement and sc/rp
    - Anesthetics as needed
    - Consider avoiding ultrasonic instrumentation due to risk of HIV transmission
  - Oral hygiene instructions

Necrotizing Periodontal Diseases

- Treatment
  - Oral rinses – (frequent, at least until pain subsides allowing effective OH)
    - Chlorhexidine gluconate 0.12%; 1/2 oz 2 x daily
    - Hydrogen peroxide/water
    - Povidone iodine
  - Pain control

Necrotizing Periodontal Diseases

- Treatment
  - Antibiotics (systemic or severe involvement)
    - Metronidazole
    - Avoid broad spectrum antibiotics in AIDS patients
  - Modify predisposing factors
  - Follow-up
    - Frequent until resolution of symptoms
    - ***Comprehensive periodontal evaluation following acute phase!!!!***

Gingival Diseases of Viral Origin

- Acute manifestations of viral infections of the oral mucosa, characterized by redness and multiple vesicles that easily rupture to form painful ulcers affecting the gingiva.

Primary Herpetic Gingivostomatitis

- Classic initial infection of herpes simplex type 1
- Mainly in young children
- 90% of primary oral infections are asymptomatic

Primary Herpetic Gingivostomatitis

Primary Herpetic Gingivostomatitis

- Clinical Features
  - Painful severe gingivitis with ulcerations, edema, and stomatitis
  - Vesicles rupture, coalesce and form ulcers
  - Fever and lymphadenopathy are classic features
  - Lesions usually resolve in 7-14 days

Primary Herpetic Gingivostomatitis

- Treatment
  - Bed rest
  - Fluids – forced
  - Nutrition
  - Antipyretics
    - » Acetaminophen, not ASA due to risk of Reye's Syndrome

Primary Herpetic Gingivostomatitis

- Treatment
  - Pain relief
    - Viscous lidocaine
    - Benadryl elixir
    - 50% Benadryl elixir/50% Maalox
  - Antiviral medications
    - Immunocompromised patients

Recurrent Oral Herpes

- “Fever blisters” or “cold sores”
- Oral lesions usually herpes simplex virus type 1
- Recurrent infections in 20-40% of those with primary infection
- Herpes labialis common
- Recurrent infections less severe than primary

Recurrent Oral Herpes

Recurrent Oral Herpes

- Clinical Features
  - Prodromal syndrome
  - Lesions start as vesicles, rupture and leave ulcers
  - A cluster of small painful ulcers on attached gingiva or lip is characteristic
  - Can cause post-operative pain following dental treatment

Recurrent Oral Herpes

- Virus reactivation
  - Fever
  - Systemic infection
  - Ultraviolet radiation
  - Stress
  - Immune system changes
  - Trauma
  - Unidentified causes

Recurrent Oral Herpes

- Treatment
  - Palliative
  - Antiviral medications
    - » Consider for treatment of immunocompromised patients, but not for periodic recurrence in healthy patients

Recurrent Aphthous Stomatitis

- “Canker sores”
- Etiology unknown
- Prevalence 10 to 20% of general population
- Usually begins in childhood
- Outbreaks sporadic, decreasing with age

Recurrent Aphthous Stomatitis

- Clinical features
  - Affects mobile mucosa
  - Most common oral ulcerative condition
  - Three forms
    - Minor
    - Major
    - Herpetiform

Recurrent Aphthous Stomatitis

- Clinical features
  - Minor Aphthae
    - » Most common
    - » Small, shallow ulcerations with slightly raised erythematous borders
    - » Central area covered by yellow-white pseudomembrane
    - » Heals without scarring in 10 –14 days

Minor Apthae

Recurrent Aphthous Stomatitis

- Clinical features
  - Major Aphthae
    - » Usually larger than 0.5cm in diameter
    - » May persist for months
    - » Frequently heal with scarring

Major Aphthae

Recurrent Aphthous Stomatitis

- Clinical features
  - Herpetiform Aphthae
    - » Small, discrete crops of multiple ulcerations
    - » Lesions similar to herpetic stomatitis but no vesicles
    - » Heal within 7 – 10 days without scaring

Recurrent Aphthous Stomatitis

- Predisposing Factors
  - Trauma
  - Stress
  - Food hypersensitivity
  - Previous viral infection
  - Nutritional deficiencies

Recurrent Aphthous Stomatitis

- Treatment - Palliative
  - Pain relief - topical anesthetic rinses
  - Adequate fluids and nutrition
  - Corticosteroids
  - Oral rinses (Chlorhexidine has been anecdotally reported to shorten the course of apthous stomatitis)
  - Topical “band aids”
  - Chemical or Laser ablation of lesions

Allergic Reactions

- Intraoral occurrence uncommon
  - Higher concentrations of allergen required for allergic reaction to occur in the oral mucosa than in skin and other surfaces

Allergic Reactions

- Examples
  - Dental restorative materials
    - Mercury, nickel, gold, zinc, chromium, and acrylics
  - Toothpastes and mouthwashes
    - Flavor additives (cinnamon) or preservatives
  - Foods
    - Peanuts, red peppers, etc.

Allergic Reactions

- Clinical Features – Variable
  - Resemble oral lichen planus or leukoplakia
  - Ulcerated lesions
  - Fiery red edematous gingivitis
- Treatment
  - Comprehensive history and interview
  - Lesions resolve after elimination of offending agent

Allergic Reaction

SUMMARY

- Abscesses of the Periodontium
- Necrotizing Periodontal Diseases
- Gingival Diseases of Viral Origin
- Recurrent Aphthous Stomatitis
- Allergic Reactions

References/Additional Resources

- Kerns DG. Acute Periodontal Conditions. In: Rose LF. Mealey BL. eds. *Periodontics Medicine, Surgery, and Implants*, 1st ed. St. Louis: Elsevier Mosby, 2004:214-236.